Ann. Natal Mus. Vol. 26(2) Pages 489–495 Pietermaritzburg June, 1985

# Two new species of Sepedon (Mesosepedon) from southern Africa (Diptera: Sciomyzidae)

by

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## ABSTRACT

*Sepedon (Mesosepedon)* Verbeke, previously with three southern African species, is enlarged by the description of two new species, *S. (M.) jonesi* (Botswana and South Africa) and *S. (M.) tuckeri* (South Africa). The validity of the subgenus *Mesosepedon* is discussed. Keys to the subgenera of *Sepedon* and species of *Mesosepedon* are given.

## INTRODUCTION

Verbeke (1950) erected the subgenera *Mesosepedon* and *Parasepedon* on the basis of a number of apparently consistent, mainly genitalic differences between two species groups in the Afrotropical *Sepedon* fauna. He noted that *Mesopedon* species have the sixth and seventh abdominal terga poorly developed (sixth tergum never elongate or strongly globose and the seventh tergum very short), the aedeagus without a spiral filament, and the presutural seta usually strong. *Parasepedon* species were noted to have the genital segments well developed (sixth tergum elongate and strongly globose, otherwise the seventh tergum strongly developed) and the aedeagus with a spiral filament. Verbeke (1961) further justified the subgeneric concept by adding that *Mesosepedon*, unlike *Parasepedon*, do not possess a seminal vesicle (cochleate vesicle of Steyskal & Knutson 1975).

The first of the new species described below does not belong to either of these subgenera, nor to *Sepedomyia*. *Sepedomyia* was originally given generic status by Verbeke (1950), but is considered a subgenus of *Sepedon* by Knutson (1980). Subgeneric status appears to be valid, because *Sepedomyia* are clearly distinguished from other *Sepedon* species by the longer first antennal segment, the presence of a humeral seta, and a distinct hypopygial structure. The new species has a *Mesosepedon* type of aedeagus (without a spiral filament), but has the presutural seta reduced or absent, and the seminal vesicle present (both features of *Parasepedon*). It thus appears that only aedeagal characters can separate *Mesosepedon* from *Parasepedon*, and that these two subgenera should at best be considered species groups. It seems, however, that the Afrotropical *Sepedon* fauna is rather poorly known, so a final decision on the status of the subgenera should only be taken after a comprehensive revision of the genus in the region. The following key should suffice until then.

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## Key to Afrotropical subgenera of *Sepedon*
Modified after Verbeke (1961) and Knutson (1968)

1. Scape at least two-thirds length of third antennal segment; greatly reduced humeral seta present .............................. **Sepedomyia** Verbeke
— Scape at most half length of third antennal segment; humeral seta absent 2
2. Aedeagus with spiral filament ..................... **Parasepedon** Verbeke
— Aedeagus without spiral filament .................. **Mesosepedon** Verbeke

## TAXONOMY

### *Sepedon (Mesosepedon)* Verbeke

*Mesosepedon* Verbeke, 1950: 38. Type-species: *Sepedon schoutedeni* Verbeke, 1950, by designation of Steyskal & Verbeke (1956: 2).

### Key to southern African *Mesosepedon* species

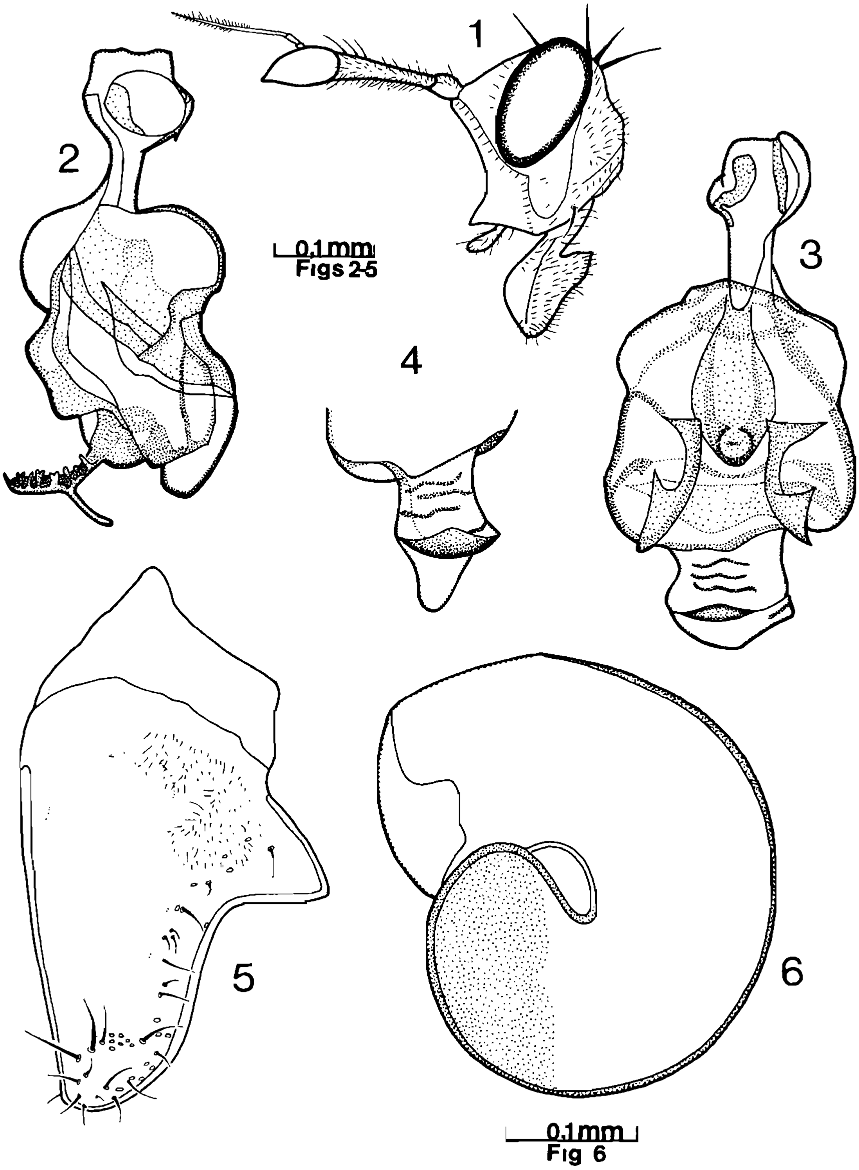
1. Presutural seta hair-like or absent; ♂ genitalia as in Figs 2–6 .... **jonesi** sp. n.
— Presutural seta present (never hair-like) ............................ 2
2. Mesonotum reddish-brown; ♂ genitalia as in Figs 7–9 ..... **convergens** Loew
— Mesonotum grey to blackish ........................................ 3
3. Forceps acutely rounded apically .................................. 4
— Forceps obtusely rounded apically (♂ genitalia as in Figs 10–12) **tuckeri** sp. n.
4. ♂ genitalia as in Figs 13–15 ............................ **pleuritica** Loew
— ♂ genitalia as in Figs 16–18 .......................... **dispersa** Verbeke

*S. jonesi* and *S. tuckeri* are easily distinguished from the only other known Afrotropical *Mesosepedon* species, *S. ethiopica* Steyskal, 1956 (Ethiopia and Kenya) and *S. schoutedeni* Verbeke, 1950 (Rwanda, Ethiopia, Kenya and Zaïre) on genitalic characteristics. For illustrations of *S. ethiopica* forceps and aedeagus, see Steyskal & Verbeke (1956: Figs 1–2); for illustrations and photographs of *S. schoutedeni* forceps and aedeagus, see Verbeke (1950: Figs 75–77; 1963: Figs 10–12). Although included in the above key, *S. (M.) dispersa* may not occur in southern Africa. After its description from Rwanda (male holotype), Verbeke (1956, 1961) and Steyskal & Verbeke (1956) list *S. dispersa* from as far south as Zimbabwe and South Africa. However, all the specimens listed as being *S. dispersa* by Verbeke (1961), are in fact *S. (M.) pleuritica*. It is therefore possible that Verbeke made the same mistake with specimens from other localities and that the distribution data of Knutson (1980): Rwanda, Kenya, Rhodesia, South Africa, Zaïre, are partly erroneous.

### **Sepedon (Mesosepedon) jonesi** sp. n. Figs 1–6

Derivation: Named after W. E. Jones, the first recorded collector of this species.

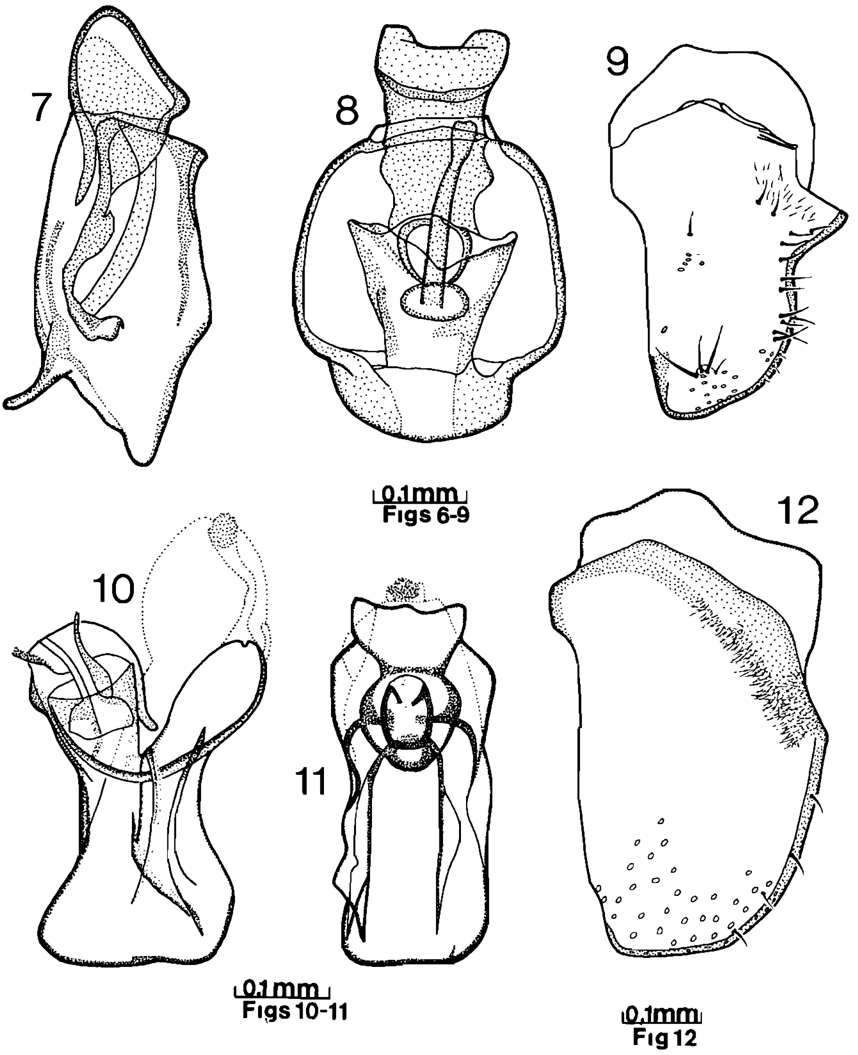
*Head* (Fig. 1): Eye testaceous to dark brown. Upper occiput and frontal area brown, remainder of head testaceous. Parafrontal spots absent; parafrontal with whitish pruinosity on outer half, from orbital seta above to lower margin of eye, and with fine setulae running below lower margin of eye to margin of buccal cavity. Ocellar tubercle red-brown to black. Mid-facial pruinosity reaches margin of buccal cavity, where it is about half to two-thirds its width between lower margins of eyes. Scape yellowish, pedicel and third segment mostly blackish; third segment and arista covered in whitish pruinosity. Arista yellow to testaceous, basal third sometimes dark brown, apical half to two-thirds with hairs up to aristal width in



Figs 1–6. *Sepedon (M.) jonesi* sp. n., ♂ (holotype). 1. Head, lateral aspect. 2. Aedeagus, lateral view. 3. Aedeagus, dorsal view. 4. Praeputium, anterior view. 5. Forceps (rt), dorsal view. 6. Seminal vesicle.

length. Antennal segments from base outwards in the proportions of 1 : 3,7–4,8 : 2,0–3,2.

*Thorax:* Black, pruinosity bronze to dusky above and white on pleuron and sternum; a pair of indistinct presutural medio-dorsal vittae sometimes present; humeral callus, propleuron and prosternum sometimes testaceous. Humeral callus with a few fine setulae; prosternum with short setulae laterally. Presutural seta reduced to absent, in line with *sa*. 1 posterior *ntpl*, stronger than *sa*. Prescutellar *dc* sometimes reduced or absent, preceded by a row of fine setulae along each *dc*-



Figs 7–12. *Sepedon (M.)* species, male genitalia. 7–9. *S. (M.) convergens* Loew. 7. Aedeagus, lateral view. 8. Aedeagus, dorsal view. 9. Forceps (rt), dorsal view. 10–12. *S. (M.) tuckeri* sp. n., ♂ (holotype). 10. Aedeagus, lateral view. 11. Aedeagus, dorsal view. 12. Forceps (rt), dorsal view.

line. Wing: Length: 5,0–5,8 mm (measured from humeral cross-vein); apical area lightly infuscated, venation unremarkable. Legs: Fore coxa testaceous, mid and hind coxae partially testaceous. Trochanters testaceous. Fore femur testaceous, sometimes apically brownish, 6–7 ventral spinules on apical half. Mid femur testaceous, sometimes apically brownish, ventral spinules on most of length. Hind femur testaceous on basal half, reddish to brown on apical half but blackish at extreme apex; ventral spinules along most of length, increasing in length apically. Fore tibia testaceous to dark brown on basal half to three-quarters, blackish on apical quarter to half; mid tibia testaceous; hind tibia testaceous to dark brown, but blackish apically. Tarsi testaceous to blackish.

*Abdomen:* Basal and apical segments dark brownish, intervening segments beige to light brown (♀ paratypes have basal segment dark, remaining segments light to dark brown, but apical segment sometimes testaceous). Aedeagus with praeputium (cf. Verbeke 1961: fig 4) having ventral keel-like projection and transverse ridges dorsally (Figs 2–4). Forceps with acutely rounded apex and acutely pointed heel-like projection near base (Fig. 5). Seminal vesicle loosely coiled and partially sclerotised (Fig. 6).

Total length: 7,1–8,6 mm (excluding antennae).

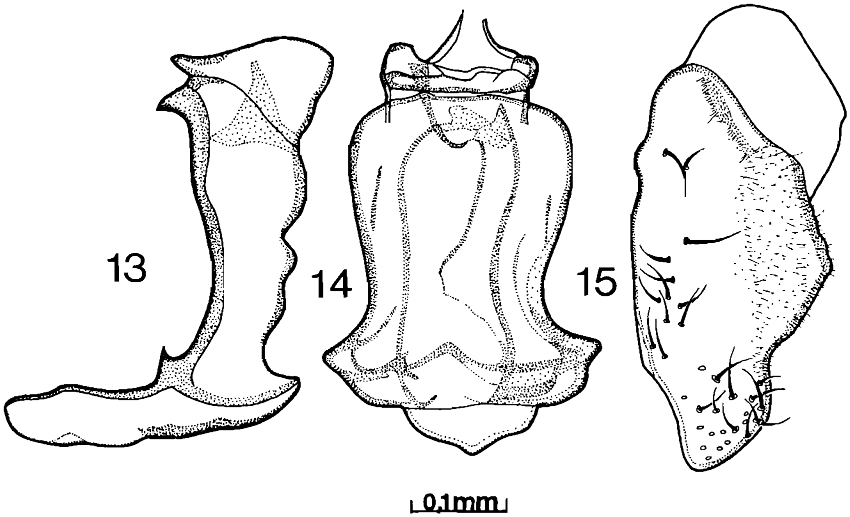
Material examined: SOUTH AFRICA: *Natal*: 1 ♂ holotype, Ashburton, 15 km S.E. Pietermaritzburg (2930CB), 12.iv.1981, D. A. Barraclough, grassveld near stream; 1 ♂ paratype, Ukulinga Research Farm, Pietermaritzburg, 28.ii.1981, D. A. Barraclough, grassveld near pond; 1 ♂ paratype, M'fongosi, Zululand, iv–v.1934, W. E. Jones. BOTSWANA: 2 ♂ 2 ♀ paratypes, Sepopa, W. Okavango, 24/25.iii.1974, Nat. Mus. Bulawayo: Nat. Mus. Exp; 1 ♂ paratype, Sepopa, Nagamiland, 14.ii.1967, E. Pinhey; 1 ♂ 3 ♀ paratypes, 4-River Camp Okavango Delta, 4.xii.1975, Nat. Mus. S. Rhodesia: Nat. Mus. Falc. Coll. Exp. ♂ holotype and South African paratypes in Natal Museum, Pietermaritzburg (type number NM 2608); Botswana paratypes in National Museum, Bulawayo.

### **Sepedon (Mesosepedon) tuckeri** sp. n. Figs 10–12

Derivation: Named after the collector, R. Tucker.

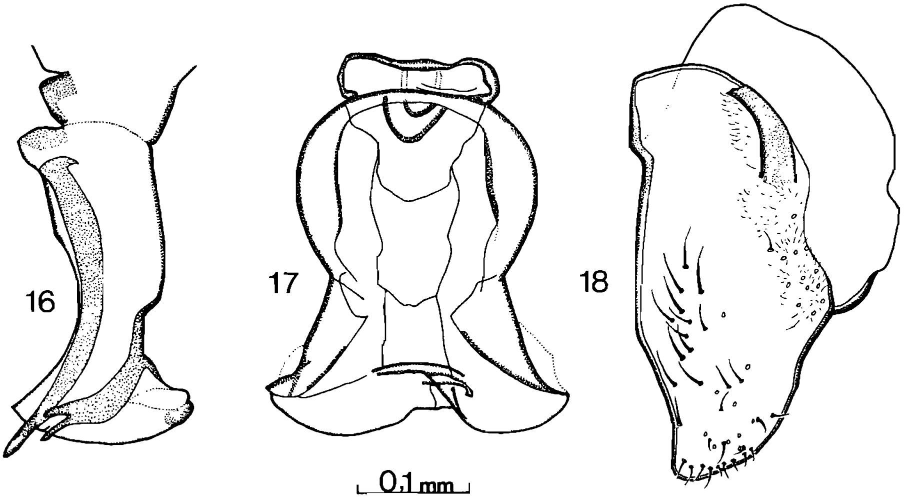
*Head:* Eye light brown. Occiput and posterior two-thirds of frontal area brown, remainder of head testaceous. Parafrontal spots present, distinctly pruinose-black and oval, removed from eye margin. Frontal area with whitish pruinosity on posterior two-thirds, and along eye margin from parafrontal spot to lower margin of eye. Ocellar tubercle blackish. Mid-facial pruinosity reaches margin of buccal cavity, where it is about one-eighth its width between lower margins of eyes. Scape and pedicel testaceous, third segment dark brown with yellowish pruinosity. Arista yellow, apical two-thirds with sparse hairs subequal in length to width of arista at its base. Antennal segments from base outwards in the proportions of 1 : 5 : 2,5.

*Thorax:* Dark brown to blackish, pruinosity dusky to bronze above and white on pleuron and sternum; pair of medio-dorsal bronze vittae present presuturally; humeral callus brownish; propleuron and prosternum testaceous. Humeral callus without setulae; prosternum with setulae indistinct. Presutural seta in line with *sa*. 1



Figs 13–15. *Sepedon (M.) pleuritica* Loew, male genitalia. 13. Aedeagus, lateral view. 14. Aedeagus, dorsal view. 15. Forceps (rt), dorsal view.

posterior *ntpl*, stronger than *sa*. Prescutellar *dc* present, setulae absent along each *dc*-line. Wing: Length: 4,9 mm (measured from humeral cross-vein); pale testaceous to brown, venation unremarkable. Legs: Fore coxa testaceous, mid and hind coxae partially testaceous. Trochanters testaceous. Fore femur testaceous to brownish with 4 ventral spinules on apical half. Mid femur testaceous, but brownish on apical two-fifths; indistinct ventral spinules on apical third. Hind femur



Figs 16–18. *Sepedon (M.) dispersa* Verbeke, ♂ (paratype). 16. Aedeagus, lateral view. 17. Aedeagus, dorsal view. 18. Forceps (rt), dorsal view. (Structures possibly depressed: drawn from a permanent slide preparation).

testaceous on basal two-thirds, reddish-brown on apical third but blackish at extreme apex; ventral spinules on apical half. Fore tibia testaceous to reddish-brown; mid tibia testaceous; hind tibia testaceous to brownish. Tarsi testaceous to reddish-brown.

*Abdomen:* Yellow to testaceous. Aedeagus without apical praeputium (cf. Verbeke 1961: fig. 4) (Figs 10 & 11). Forceps obtusely rounded apically and basal heel-like projection absent (Fig. 12). Seminal vesicle absent.

Measurements: Length of head and thorax: 3,4 mm.

Material examined: SOUTH AFRICA: *Cape Province:* 1 ♂ holotype, Table Mt, Cape Town, R. Tucker. In Natal Museum, Pietermaritzburg (type number NM 2659).

Remarks: The aedeagus of this species is similar to that of *S. (M.) schoutedeni* in dorsal view, but is distinct in profile.

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Date received: 14 September 1983.